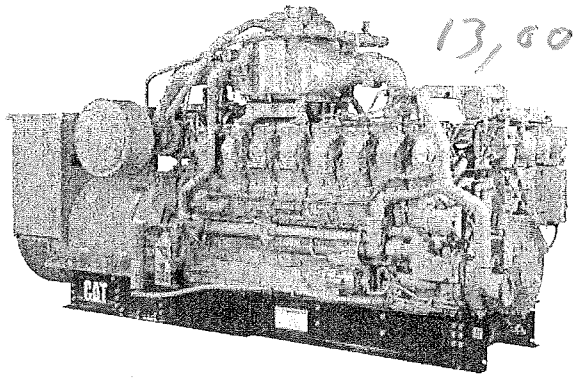
GAS GENERATOR SET

CATERPILLAR®



Shown with Optional Equipment

13,600 Hours -

CONTINUOUS 1300 ekW
1400 ekW

60 Hz

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

EMISSIONS
- Meets most worldwide emissions requirements down to 0.5 g/bhp-hr NOx level without after treatment

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested

SINGLE-SOURCE SUPPLIER
- **Fully Prototype Tested** with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- With over 1,800 dealer branch stores operating in 166 countries, you're never far from the Caterpillar part you need.
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry.
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system.
- Customer Support Agreements offer back-to-back services from scheduled inspections and preventive maintenance to before-failure overhauls and Total Cost-Per-Hour Guarantees.

CAT® G3516B LE GAS ENGINE
- Robust design provides prolonged life and lower owning and operating costs
- Designed for maximum performance on low pressure pipeline natural gas
- One electronic control module handles all engine functions: ignition, governing, air fuel ratio control, and engine protection

CAT SR4B GENERATOR
- Designed to match performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated low voltage (AC/DC) accessory box provides single point access to accessory connections

CAT CONTROL PANELS
- Designed to meet individual customer needs: EMCP II+ provides full-featured power metering, purge cycle, staged shutdown logic, plus programmable protective relaying functions
- Remote control and monitor capability options

DAVE Newman

CONTINUOUS 1300 ekW 1400 ekW 60 Hz

CATERPILLAR®

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT 885-7368-

System	Standard	Optional
Air Inlet	Modular air cleaner, single element service indicator	
Cooling	Engine driven water pumps for jacket water and aftercooler circuit, jacket water and SCAC thermostats Cat flange connections	
Engine Control Module	Fuel/air ratio control Start/stop logic: gas purge cycle, stage shutdown Engine Protection Systems: detonation sensitive timing, high jacket water temperature, low oil pressure, failure to start (overcrank), overspeed, high oil temperature, emergency stop, transient richening and turbo bypass control	
Exhaust	Dry exhaust manifolds CAT flanged outlet	15 dBA muffler 18 dBA muffler Spark arresting muffler without companion flanges
Fuel	Electronic air fuel ratio control (Engine Control Module; ADEM III based), electronic fuel metering valve, gas shutoff valve, 24 volt energized-to-run	Fuel filter (non-coalescent) Gas train with 24V double gas shutoff valve, isolation valve, regulator, gas leak detection
Ignition	Electronic ignition system, individual cylinder timing and detonation control	
Integrated Thermo Sensing Module (ITSM)	24 thermocouples to input individual exhaust port temperatures and turbo inlet and outlet temperatures on both the turbine and compressor	CCM transfers CAT DataLink information through RS232 to customer terminal
Generator	Permanent magnet excitation, 105° C rise, single bearing, form wound, six lead, 3-phase sensing, platinum stator RTDs, class H Insulation, DVR with adjustable 1:1 or 2:1 Volts/Hz, bus bar termination, segregated low voltage wiring panel	Digital Voltage Regulator with KVAR/PF control Oversize and premium generators, bearing temperature detector Low voltage cable extension box
Circuit Breaker		IEC compliant, 3-pole and 4-pole
Governor	Electronic — Engine Control Module	Electronic load sharing (ship loose module)
Control Panels	EMCP II+	Local alarm and remote annunciator modules Customer Interface Module, synchronizing module
Lube	Lubricating oil and filter, oil drain valve Crankcase breathers gear type lube oil pump, integral lube oil cooler, filler/dipstick, prelube pump	Closed crankcase ventilation system
Mounting	Spring-type anti-vibration isolators	
Starting/Charging	60 amp charging alternator Dual 24 volt starting motor Batteries with rack and cables Batteries disconnect switch	Battery charger, air starting system, jacket water heaters, 12 kW (dual 6 kW) 480 V/3 phase/60 Hz heater element; 9 kW 480 V/3 phase 60 Hz with 230 V/1 phase/60 Hz circulation pump. Battery disconnects switch, oversize batteries
Other		EEC declaration of Incorporation CSA Certification (generator only)

SPECIFICATIONS

CAT SR4B GENERATOR

Frame size 697/824
Excitation ..... Permanent magnet
Pitch 0.6667
Number of poles 4
Number of bearings 1
Number of leads 6
Insulation ..... UL 1446 Recognized Class H Insulation
IP rating ..... Drip proof IP22
Alignment ..... Pilot shaft
Overspeed capability 125%
Wave form ..... Less than 5% deviation
Paralleling kit droop transformer ..... Standard
Voltage regulator ..... 3-phase sensing with adjustable 1:1 or 2:1 Volts/Hz, UL 508A Listed
TIF ..... Less than 50
THD ..... Less than 3%

Consult your Caterpillar dealer for available voltages.

CAT ENGINE

G3516B SCAC, 4-stroke-cycle watercooled gas
Bore — mm (in) 170 (6.7)
Stroke — mm (in) 190 (7.5)
Displacement — L (cu in) 69 (4210)
Compression ratio 11.1:1
Aspiration ..... Turbocharged, Separate Circuit Aftercooled
Fuel system ..... Electronic Ignition System
Governor type ..... Electronic Engine Control Module

CAT CONTROL PANEL

24 Volt DC Control
NEMA 1, IP22 enclosure
Electrically dead front
Lockable hinged door
Generator instruments meet ANSI C-39-1
Terminal box mounted
Single location customer connector point
EC compliant — segregated AC/DC connections and wiring

TECHNICAL DATA

Generator Set — 1800 rpm/60 Hz/480 Volts			DM5498		DM5496	
G3516B LE Gas Generator Set						
Emission level (NOx)	g/bhp-hr		0.5		0.5	
Aftercooler — SCAC temperature	Deg C	Deg F	32	90	54	130
Package Performance						
Power rating @ 1.0 pf (unity)	ekW		1410		1310	
Power rating @ 0.8 pf (3)	ekW		1400		1300	
	kVA		1750		1625	
Fuel Consumption (1)						
100% load 60 without fan	N•m³/hr	scf/hr	407	15,190	380	14,174
75% load 60 without fan	N•m³/hr	scf/hr	319	11,912	298	11,134
50% load 60 without fan	N•m³/hr	scf/hr	229	8525	211	7879
Electrical Efficiency	%		35.3		34.8	
Altitude Capability (2)						
At 25° C/77° F ambient	M	ft	553	1813	682	2237
Cooling System						
Ambient air temperature	Deg C	Deg F	25	77	25	77
Jacket water temperature (maximum outlet)	Deg C	Deg F	92	198	92	198
Exhaust System						
Combustion air inlet flow rate	N•m³/min	scfm	115	4290	110	4120
Exhaust stack gas temperature	Deg C	Deg F	529	985	523	974
Exhaust gas flow rate	N•m³/min	cfm	355	12,525	338	11,923
Exhaust flange size (internal diameter)	mm	in	203	8	203	8
Heat Balance (2) (3)						
Low Heat Value (LHV) fuel input	kW	Btu/min	4146	235,819	3868	220,033
Heat rejection to jacket water (total)	kW	Btu/min	826	46,996	798	45,398
Heat rejection to exhaust (LHV to 350° F)	kW	Btu/min	989	56,262	930	52,907
Heat rejection to A/C — Stage 2	kW	Btu/min	193	10,956	133	7542
Heat rejection to atmosphere from engine	kW	Btu/min	138	7838	137	7794
Heat rejection to atmosphere from generator	kW	Btu/min	44	2513	43	2432
Alternator						
Motor starting capability @ 30% voltage dip*	KVA		3271		2661	
Frame			824		697	
Temperature rise	Deg C		105		105	
Lube System						
Lube oil refill volume w/filter change for standard sump	L	Gal	401	106	401	106
Emissions**						
NOx	g/ghp-hr		0.5		0.5	
CO	g/ghp-hr		2.4		2.5	
HC (total)	g/ghp-hr		4.8		5.4	
HC (non-methane)	g/ghp-hr		0.72		0.81	
Exhaust O_2 (dry)	%		9.1		9.2	

*Assumes synchronous driver.

**Emissions data measurements are consistent with those described in EPA CFR 40 Part 89 Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state engine operating conditions of 25° C (77° F), 96.28 kPa (28.43 inches Hg) and fuel having a LHV of 35.6 mJ/N•m³ (905 Btu/cu.ft) at 101.60 kPa (30.00 inches Hg) absolute and 0° C (32° F). Not to exceed emission data shown is subject to instrumentation, measurement, facility and engine fuel system adjustments.

RATING DEFINITIONS AND CONDITIONS

Continuous — Output available without varying load for an unlimited time.

(1) Ratings and fuel consumption are based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 inches Hg).

(2) Ratings and fuel consumption based on ISO3046/1 conditions with nominal 2.5 kPa inlet restriction and 5 kPa exhaust restriction. All performance numbers listed on this page are at these conditions except Fuel input (1) .

(3) Ratings are based on pipeline natural gas having a LHV (low heat value) of 35.6 mJ/N•m³ (905 Btu/cu.ft) and 80 MN. For values in excess of the altitude, temperature, inlet/exhaust restriction, or for natural gas compositions different from the conditions listed, contact your local Caterpillar dealer.

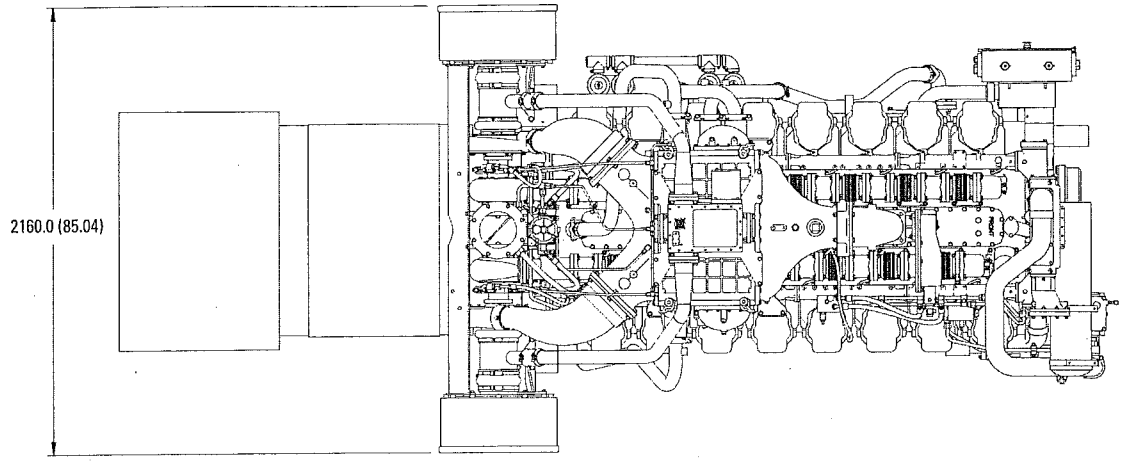
TECHNICAL DATA

Generator Set — 1800 rpm/60 Hz/480 Volts			DM5497		DM5495	
G3516B LE Gas Generator Set						
Emission level (NOx)	g/bhp-hr		1.0		1.0	
Aftercooler — SCAC temperature	Deg C	Deg F	32	90	54	130
Package Performance						
Power rating @ 1.0 pf (unity)	ekW		1410		1310	
Power rating @ 0.8 pf (3)	ekW		1400		1300	
	kVA		1750		1625	
Fuel Consumption (1)						
100% load 60 without fan	N•m³/hr	scf/hr	396	14,770	369	13,789
75% load 60 without fan	N•m³/hr	scf/hr	312	11,650	288	10,737
50% load 60 without fan	N•m³/hr	scf/hr	223	8321	208	7777
Electrical Efficiency	%		36.3		35.7	
Altitude Capability (2)						
At 25° C/77° F ambient	M	ft	872	2862	903	2961
Cooling System						
Ambient air temperature	Deg C	Deg F	25	77	25	77
Jacket water temperature (maximum outlet)	Deg C	Deg F	92	198	92	198
Exhaust System						
Combustion air inlet flow rate	N•m³/min	scfm	110	4117	105	3926
Exhaust stack gas temperature	Deg C	Deg F	532	990	530	986
Exhaust gas flow rate	N•m³/min	cfm	342	12,064	325	11,469
Exhaust flange size (internal diameter)	mm	in	203	8	203	8
Heat Balance (2) (3)						
Low Heat Value (LHV) fuel input	kW	Btu/min	4032	229,357	3764	214,100
Heat rejection to jacket water (total)	kW	Btu/min	783	45,511	764	43,448
Heat rejection to exhaust (LHV to 350° F)	kW	Btu/min	958	54,471	906	51,547
Heat rejection to A/C — Stage 2	kW	Btu/min	180	10,211	118	6717
Heat rejection to atmosphere from engine	kW	Btu/min	137	7793	136	7762
Heat rejection to atmosphere from generator	kW	Btu/min	44	2523	43	2432
Alternator						
Motor starting capability @ 30% voltage dip*	KVA		3271		2661	
Frame			824		697	
Temperature rise	Deg C		105		105	
Lube System						
Lube oil refill volume w/filter change for standard sump	L	Gal	401	106	401	106
Emissions**						
NOx	g/ghp-hr		1.0		1.0	
CO	g/ghp-hr		2.5		2.6	
HC (total)	g/ghp-hr		4.1		4.4	
HC (non-methane)	g/ghp-hr		0.62		0.66	
Exhaust O_2 (dry)	%		8.9		9.2	

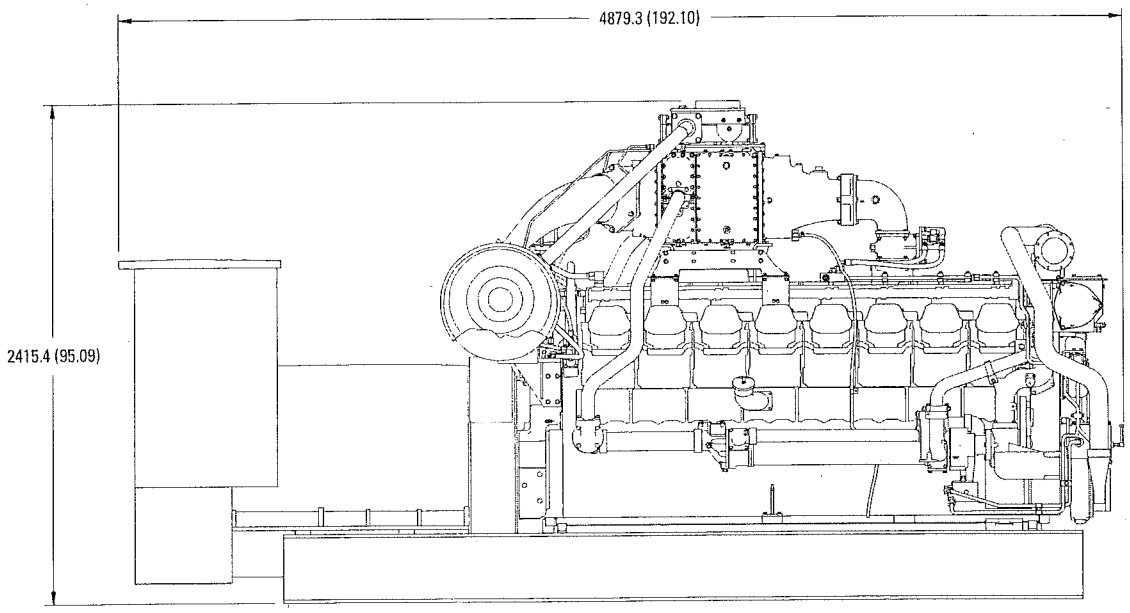
*Assumes synchronous driver.

**Emissions data measurements are consistent with those described in EPA CFR 40 Part 89 Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state engine operating conditions of 25° C (77° F), 96.28 kPa (28.43 inches Hg) and fuel having a LHV of 35.6 mJ/N•m³ (905 Btu/cu.ft) at 101.60 kPa (30.00 inches Hg) absolute and 0° C (32° F). Not to exceed emission data shown is subject to instrumentation, measurement, facility and engine fuel system adjustments.

697 GENERATOR FRAME
CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



697 GENERATOR FRAME
CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions with 697 Frame Generator		
Length	4879.3 mm	192.10 in
Width	2160.0 mm	85.04 in
Height	2415.4 mm	95.09 in
Shipping Weight	12 283.0 kg	27,080.0 lbs

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 212-9995).

CONTINUOUS 1300 ekW 1400 ekW 60 Hz

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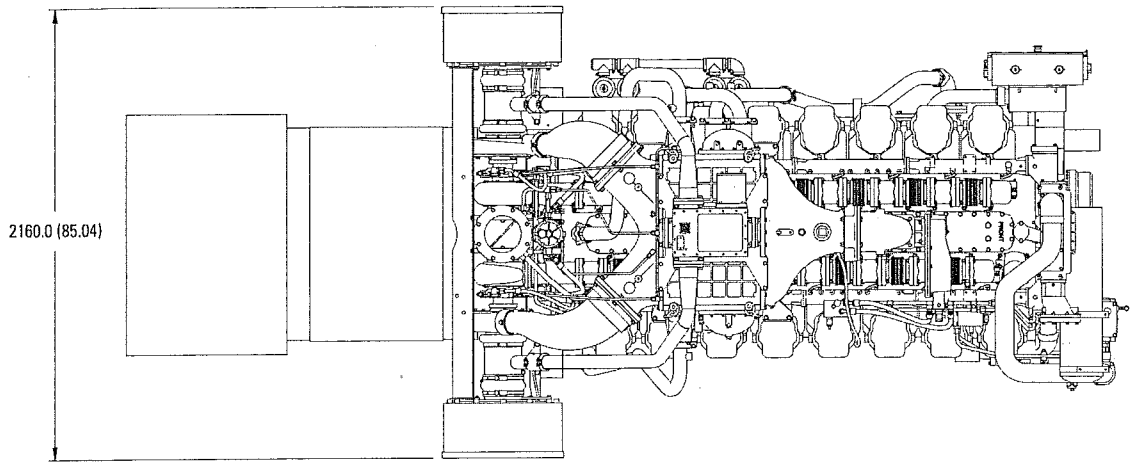
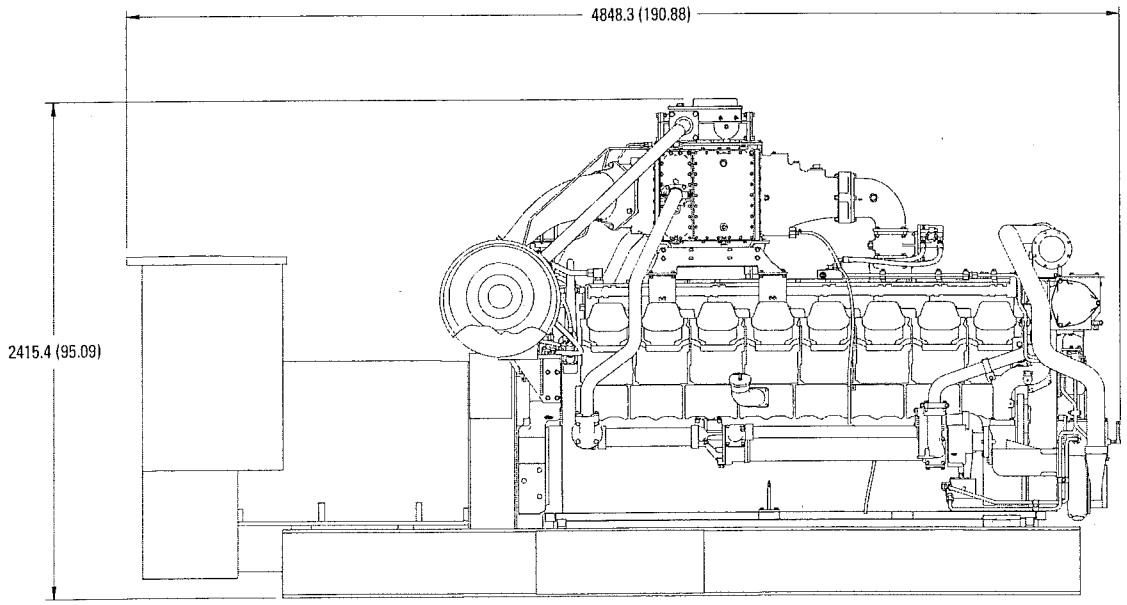
824 GENERATOR FRAME
CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



824 GENERATOR FRAME
CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions with 824 Frame Generator		
Length	4848.3 mm	190.88 in
Width	2160.0 mm	85.04 in
Height	2415.4 mm	95.09 in
Shipping Weight	12 873.0 kg	28,380.0 lbs

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 212-9995).

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TMI Reference No.: DM5495, DM5496, DM5497, DM5498

U.S. sourced

LEHE2033-01 (02-02)

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Civil Engineering
Surveying
Water Resources Management
Water & Wastewater Engineering
Supply Chain Logistics
Construction Management
Environmental Sciences
Landscape Architecture
Land Planning

December 16, 2010

RE: Proposal Questionnaire – Far West Hybrid Aggregate & Asphalt Plant
Carson City, Nevada

The Planning Commission, and possibly the Board of Supervisors, in reviewing and judging the merit of a proposal for a special use permit shall direct its considerations to, and find that in addition to other standards in this title, the following conditions and standards are met:

Question 1: **How will the proposed development further and be in keeping with, and not contrary to, the goals of the Master Plan Elements?**

Explanation: *Please see the attached Master Plan Policy Checklist for specific items checked; explanations associated with the selected sections are presented below.*

Chapter 3 – A Balanced Land Use Pattern. The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?

According to the Carson City Master Plan, Chapter 3, Goal 1.1f – Energy Conservation, Carson City wants to encourage the incorporation of site planning and other design techniques that promote solar and wind efficiency in the construction of new homes and non-residential development, as well as encourage the use of new and emerging technologies that lead to increased energy conservation for both residential and non-residential uses.

While the proposed Far West Hybrid Asphalt and Aggregate Plant will produce products that are familiar to Carson City, the manner in which these produces are created will be considerably different and will utilize clean, renewable energy for a significant portion of operations, which is consistent with Goal 1.1f of the Carson City Master Plan.

To power both the asphalt production and aggregate crushing operations, Far West proposes to produce its own power through the use of a GE 2.5 megawatt (full capacity) Wind Turbine and Caterpillar Natural Gas Generation Set. It is anticipated that the asphalt and crushing facility will use approximately 1.5 megawatts of power, leaving approximately 1.0 megawatt of power at full capacity unused by the proposed operations and able to be sold back into the power grid. This will provide benefit for users to purchase power from an additional source at a more cost effective rate, including Carson City, which has been discussed with officials previously (see email from Andy Burnham expressing interest in partnering for power in the Supporting Documentation section of this application).

The use of a Natural Gas Generation Set in conjunction with, and as a back-up for, the Wind Turbine, will allow for the emissions of the overall asphalt production and aggregate crushing facility to be drastically reduced in relation to the use of diesel fuel in a traditional operation. For operations that require diesel fuel, Far West plans to utilize bio-diesel fuel, which is produced by Bently Biofuels in Douglas County, Nevada, making this operations even more environmentally sensitive by not only producing and using renewable energy sources, but also utilizing recycled fuel from a local source to reduce emissions and benefit local economies. An overview letter from Bently Biofuels has been included in the Supporting Documentation section of this application.

Finally, the plant itself, is proposed to eventually operate with a burner-less dryer drum that dedicates a set amount of power to dry material through the use of a Tungsten element and a Meliculite-insulated drum. This equipment is expected to be installed once the overall plant and crushing operation is fully functional. This is a cutting edge process that will result in the production of virtually no emissions. This highly functional process is derived through the use of special holding bins as well as the creation of a pre-warming of materials facility specifically designed around the custom construction of Far West's revolutionary new warming bins. Far West bins are ceramically insulated and lined with Tungsten elements to pre-warm the material before entering the final stages of drying in the burner-less dryer drum. These bins utilize wind power to generate self-sustaining power. Through the use of thermal cameras and rheostats, Far West is able to control the temperature of material and remove all unwanted moisture while the material is preheated, which saves energy. In addition to the electricity from the turbine, the plant will also utilize all the heat from the turbine's heat exchanger and the generation set to circulate heat through the bins and also for the storage of all binders.

The use of the aforementioned processes, equipment and fuel replaces the traditional diesel-fired asphalt plant production, which reduces overall plant emissions and utilizes sustainable natural resources.

If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The proposed project is located within the Eastern Portal – Virginia & Truckee Railroad Gateway Specific Plan Area (V&T-SPA). The project relates to the policies identified in this SPA as follows:

1.1 Development Quality: Protect the scenic quality of the V&T experience with consideration given from the views from the train route as well as the terminal location by developing and adopting specific design standards for commercial development and public-use development within the V&T-SPA to protect the scenic quality of the V&T route.

a. Views from the Train. The typical way a passenger enjoys views from a windowed passenger car in a train is to look out to the side, almost perpendicular with the train as it moves. Looking forward and upward are less ideal for the viewer, therefore, less utilized: 1) because attempting to look forward, the viewer is typically met with obstructions inside the passenger car such as window frames or other passengers in front of them; and 2) because looking up from inside the passenger car only affords a small viewport until it is obstructed by the top of the window frame and the top of the passenger car. This is assuming that the majority of passengers are carried in closed cars.

The Nevada Commission for the Reconstruction of the V&T Railway (NCRVTR) working in conjunction with the subject property's landowner, CB Maddox, anticipated the passengers' view experience as it relates to the existing commercial and general industrial areas between the Eastgate Siding and the U.S. Highway 50 bridge, and have placed a visual screening berm for purposes of shielding the passenger views in less desirable areas. For trains traveling from Virginia City to Carson City, the views as the train crosses the U.S. Highway 50 are primarily directed into the valley and to the mountain ranges beyond. Similarly, for trains traveling from Carson City to Virginia City, the passengers' views are predominantly directed

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toward the properties lying to the south of the existing Pick N Pull, currently unscreened vacant land.

In addition, the asphalt plant and associated wind turbine are proposed in an existing pit area, which lies approximately 60' below the visual screening berm constructed by the NCRVTR (please see the Visual Screening Berm Cross Section exhibit included in the Supporting Documentation section of this application). This means that, in combination with the view restrictions discussed above, the passengers on the V&T train should not see the two (2) silos at all (or just the very top of them), and either small sections of the wind turbine base and rotor, if viewing from track directly adjacent; or approximately 125' to 165' of the turbine from greater distances on the track, resulting in a reduced obstruction due to scale versus distance.

b. *Views from the Temporary Eastgate Siding Ticket Sales/Passenger Loading Facility, Interim Flint Drive Station and Permanent Drako Way Terminal Sites. As the project relates to the V&T terminal sites, both existing and proposed, it is expected that partial views of the wind turbine will exist. In the case of the existing temporary Eastgate Siding Ticket Sales/Passenger Loading Facility, the view is expected to be of the top 165' of the wind turbine because the elevation of the site is below the visual screening berm around the pit, as is the elevation of the floor of the pit itself. This is a temporary location for the current train operations and the permanent terminal site preferred by the NCRVTR is at Drako Way pending receipt of additional funding to extend the V&T Railway to its final location. Alternatively, an interim station may be build off of Flint Drive east of U.S. Highway 50. Views of the turbine at this location are also partially obscured, however, the view will likely be similar of that at the temporary site, approximately 125'-165' of the turbine. It should be noted that the existing ticking facility is approximately .2 miles away from the proposed wind turbine; the interim Flint Drive station site is approximately .6 miles away and the Drako Way terminal site is approximately 1.5 miles away. All views from the terminal locations are uphill, similar to those views from the train, and the primary views in these locations are downhill toward Carson City and Douglas County versus uphill toward Lyon County where the turbine will be located. Photosimulations of the wind turbine anticipated to be seen from these sites will be provided.*

It should also be noted that as railroads go (historic or otherwise), and the V&T is no exception, the track often goes through several aggregate pit and industrial areas because these uses were not only served by the railroads, but also helped build the railroads themselves. As is the case with the V&T, the railway passes through at least four (4) different pit areas as it makes its way from Virginia City to Carson City, including the subject site. The other three (3) areas, however, have not been bermed for visual effect, whereas the pit area where the asphalt plant and wind turbine is proposed has been bermed due to proximity to the track itself. On a side note, it is our opinion that the transition from 21st century modern-day developed areas in Carson City to the 19th century scenery and historic development in American Flat/Gold Hill/Virginia City actually enhances the riders' experience on the V&T Railway because it truly gives the illusion of going back in time.

Finally, its important to recognize that the V&T Railway goes through several developed industrial areas with view obstructions including signage that are much less pleasing to the eye than a single wind turbine, albeit large. And while it's not the goal to promote additional obstructions to the views from the V&T, the area where the wind turbine is proposed is zoned general industrial and master planned mixed-use commercial. In either case (commercial or industrial) the possibility exists for views less desirable than the most ideal case, which are unobstructed scenic mountain, valley and river views. Partially obstructing views in the already developed industrial Eastgate area of the V&T are a small trade-off for the benefit that a wind turbine of this size will provide to Carson City. It should also be noted that the majority of the ride, with the exception of the Moundhouse and Carson City is either developed with improvements typical of 19th century mining attributes or undeveloped, particularly the Carson River Canyon, which is targeted by the Carson City Open Space Advisory Committee for acquisition.

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1.2 Zoning: Rezone the private lands in Carson City along Highway 50 East from General Industrial to a commercial designation consistent with the Master Plan Land Use Map.

The subject property is currently zoned general industrial and does fall into the area that Carson City wishes to change to a commercial designation at some time in the future. However, when the Master Plan was adopted in 2006 the development climate in residential, commercial and tourism uses was significantly different and the Master Plan outlined an action plan to change these properties within the first two years of being adopted to accommodate that climate. It is now nearly 2011 and the properties have not yet been rezoned, which is a strong indicator of the demand for commercial uses in the V&T area and the development climate in general. The ultimate goal of changing these properties to commercial is still valid because it will provide Carson City with commercial uses in close proximity to the V&T Railway, however until the demand presents itself the properties are better utilized with their existing general industrial zoning.

1.3 View Corridors: Identify Critical views of the landfill area from the V&T route and adjacent commercial areas and mitigate visual impacts by planting, screening or other methods around the landfill.

The proposed project is not in the area of the landfill, therefore this goal in not applicable.

1.4 Compatibility with Adjacent Uses: 1) Prohibit new uses on public lands within the V&T-SPA that would conflict with the V&T and related commercial-tourism in the vicinity, such as uses that generate excessive noise, dust or odors, excluding the continued operation of the landfill; and 2) Consider limiting the use of public lands as part of any proposed disposal of the BLM property into Carson City ownership through a federal lands bill.

The proposed project is not located on public lands within the V&T-SPA, therefore this goal is not applicable.

1.5 Drako Way Vicinity Land Use Change: The land use designation of the property in the vicinity of Drako Way, east of the V&T railroad alignment shall be changed by Carson City from Industrial to Mixed-Use Commercial and/or Mixed-Use Residential upon removal of the old landfill identified on the site or with approved engineering controls in accordance with NDEP standards upon development of the property.

The proposed project is not located in the immediate vicinity of Drako Way or east of the V&T railway alignment, therefore this goal is not applicable.

2.1 Trail Facilities: The Parks and Recreation will continue to work with the V&T Commission and the V&T Consultants in locating appropriate trail facilities along the Carson River corridor consistent with the V&T operation plans and the Unified Pathways Master Plan.

The proposed project is not located along the Carson River corridor, therefore this goal is not applicable.

3.1 Carson River Corridor: Encourage continued cleanup and patrol of the Carson River corridor to protect the scenic resource through partnerships with public and private agencies.

The proposed project is not located along the Carson River corridor, therefore this goal is not applicable.

4.1 Coordination: Encourage continued collaboration with Lyon County and Storey County to minimize land use conflicts along the V&T corridor.

Not applicable.

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Chapter 5 – Economic Vitality. The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

Maintain and enhance the City's primary job base (5.1a - k)?

Some of the key components of this goal include the following:

- *Retention and promotion of Carson City's extensive manufacturing community (5.1a). The addition of an asphalt and aggregate plant with associated power production, both for onsite operations and for sale and partnership with other users is meets the goal of retention and promotion of the manufacturing community. This particular plant will be the only plant in Carson City working solely for private sales of material, which will result in significant tax revenue for the City, as well as a new local source for consumers to purchase asphalt, aggregate materials and wind-generated power.*
- *Promote expansion and recruitment of industries that offer career opportunities for both secondary and post-secondary school graduates (5.1b). This project will create an estimated 10-20 jobs directly related to operations of the asphalt and aggregate plant and wind turbine. Indirect job estimates are unknown, however it is anticipated that additional jobs will either be created or retained in industries that will support this operation including materials hauling, construction, etc. as well.*
- *Promote entrepreneurial opportunities for persons interested in full-time or part-time employment or desiring to own their own business (5.1c). The proposed hybrid asphalt plant is unique in its processes, especially related to the use of renewable energy in combination with natural gas and burner-less drying. Promoting a business with significant emissions reduction and low carbon footprint, as well as the generation of new power for sale into the grid not only promotes an entrepreneurial opportunity within Carson City, but a very green, environmentally-sensitive entrepreneurial opportunity at that.*
- *Identify, development and enhance multiple industrial specializations and improve opportunities for productive employment in key sectors, including, without limitation, those already present in Carson City (5.1d). Thy hybrid AC plant and associated wind turbine includes multiple industrial specializations because it will manufacture asphalt and aggregate as well as produce power for both onsite use and for sale to users.*
- *Promote vertical diversity, which includes the identification and encouragement of industries consistent with the natural environment, existing industries and targeted clusters. Vertical diversity can be obtained through reducing supply chain costs, shared research and development objectives and other co-location efficiencies (5.1g). Vertical diversity is achieved with this project because the wind turbine will be co-located onsite with the asphalt and aggregate production and will provide power to these operations, thereby reducing power supply chain costs for the business. In addition, there is the opportunity for reduction in supply chain cost for power to Carson City as well through the purchase of power from the wind turbine generation at a reduced cost.*

<u>Question 2 – Will the effect of the proposed development be detrimental to the immediate vicinity? To the general neighborhood?</u>

The proposed hybrid asphalt and aggregate Plant and associated wind turbine are located within the general industrial zoning district in Carson City. Adjacent zoning is also general industrial and surrounding uses include the V&T Railway Eastgate Siding, a Pick N Pull auto wrecking and parts facility, small auto repair businesses and vacant general industrial land. The proposed project is

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consistent with the surrounding uses in noise levels, physical activity, dust, odor, etc. and should not be a detriment to property values in the area.

The proposed project is located within an existing pit area and aggregate facility that has been operational for many years. The proposed project will add an asphalt plant and a 225' wind turbine that will provide power to operate the facility. According to Carson City Municipal Code, the electric/gas plant associated with the wind turbine is permitted by right within the general industrial zoning district, however, due to output and height of the proposed turbine, a special use permit is required. Additionally, an asphalt plant is permitted with a special use permit within the general industrial zoning district.

The height and output of the wind turbine is not anticipated to be detrimental to the use, peaceful enjoyment or development of surrounding properties because the surrounding properties are general industrial and, by nature, tend to be more intensive, invasive uses. Because of its location at the outskirts of the City, the proposed wind turbine will likely not be seen from central Carson City, in particular due to the depressed nature of the pit where the turbine will be located, as well as the significant topography between central Carson City and the wind turbine location. As is outlined in the findings for the V&T-SPA earlier in this document, the height of the wind turbine should have minimal visual impact.

Sound impact from both the wind turbine and asphalt facility are expected to be at or below acceptable levels for their respective operations. Sound studies have been included as a part of this application. Emissions produced by the asphalt plant and associated uses is anticipated to be significantly low as the asphalt plant will be powered by wind energy and natural gas. The majority of emissions produced with this operation will be associated with the actual aggregate crushing and the hauling of materials by semi trucks, neither of which is detrimental to the surrounding general industrial uses.

Truck hauling traffic associated with the asphalt and aggregate crushing plant is expected at 12 round trips per hour during peak hours for a maximum of 132 trips per day (11 hours of operation time per day). This is not anticipated to be more than the peak hour trips for existing aggregate facility at this site when operational, therefore, it is not should not have significant impact on existing traffic levels.

The short and long range benefits from the proposed asphalt and aggregate crushing plant and associated wind turbine include the expansion of Carson City's tax base through the private sale of materials, the creation of direct and indirect jobs, the utilization of an existing similar operation site for this land use versus placement of the plant in a less appropriate area, and the creation of a large renewable energy source which will power onsite operations, thereby reducing emissions significantly, and providing opportunity for additional power source for users, including Carson City, at a reduced rate.

Question 3 – Has sufficient consideration been exercised by the applicant in adapting the project to existing improvements in the vicinity?

The applicant has given sufficient consideration to adapting the proposed hybrid asphalt and aggregate plant with associated wind turbine to existing improvements as follows:

- *The project will not significantly add to the school population, therefore should not affect the school district. The site is on the outskirts of Carson City near the Lyon County border, is currently fenced and will be sufficiently lit, which should have minimal impact on the Sherriff's office.*
- *Drainage runoff from the site is not anticipated as it is an existing aggregate pit in a depressed area. Please see the drainage letter provided as a part of this application.*
- *The project will use non-potable water from Carson City for dust control and operations as needed. Domestic water will not be used for the project, with the exception of water that is already connected to an adjacent warehouse building that will be leased as a part of the operations. Please see the letter of understanding from the warehouse building owner that is included in the Supporting Information section of this submittal.*

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- *The project will not be using sewage disposal, with the exception of the sewer that is already connected to an adjacent warehouse building that will be leased as a part of the operations. Please see the letter of understanding from the warehouse building owner that is included in the Supporting Information section of this submittal.*
- *Roadway improvements other than those existing will not be required to serve the project. The site is an existing aggregate facility with a private, maintained access from U.S. Highway 50 along with an approved encroachment permit. Improvements required as a part of the existing encroachment permit will be maintained as necessary.*
- *Outdoor lighting will be provided for the parking area and on the asphalt and aggregate facilities. The specific nature of this lighting is to be determined, however, it will comply with Carson City Municipal Code regarding shielding, dark skies, etc.*
- *Landscaping will be provided in conjunction with the building permit plans for this project.*
- *Parking spaces have been provided in excess of the Carson City Municipal Code requirement as shown on the site plan included in this submittal. One (1) parking space was determined necessary based on square footage and three (3) have been provided.*

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ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one-year of the date of the Planning Commission's approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City code requirements.

Applicant

12-10-2010
Date

Carson City Planning Division
108 E. Proctor Street
Carson City, Nevada 89701
(775) 887-2180
Plandiv@carson.org
www.carson.org

November 15, 2010

Robert F. Matthews
712 7th Street
St. Petersburg, FL 33701

MPR-10-098

Project Description: Farwest Hybrid AC Plant

Review Date: November 02, 2010

Major Project Review Comments

The Major Project Review Committee has reviewed the proposed plans for the Farwest Hybrid AC Plant. The following requirements and comments are provided for your use in preparing final plans for the project. Please be advised that the comments presented in this letter are based on the plans submitted with the Major Project Review application and may not include all the requirements or conditions which may be placed on the project at the time of submittal of final plans for building permits. It is hoped, however, that this review will expedite the completion of your project.

Some of the requirements noted below may have already been shown or otherwise indicated in the plans and need only be submitted in the final improvement plan form. The final on- and off-site improvement plans will be submitted to the Building Division, (108 E. Proctor Street). These plans must contain all appropriate requirements of Development Engineering, Health, Utilities, Fire, and Planning Divisions/Departments.

SITE INFORMATION:

Address:	To be determined
APNs:	008-611-04 through 008-611-10, -33,-35,-37, &-38, 008-523-08 and 008-523-10
Parcel Size:	20+ acre site
Master Plan Designation:	Mixed Use Commercial
Zoning:	General Industrial

PLANNING DIVISION – Contact Jennifer Pruitt, Principal Planner

1. The proposed electrical/gas plant is permitted by right by zoning district.

2. The proposed Asphalt Plant is permitted by Special Use Permit.

Special Use Permit, CCMC 18.02.080 or Variance, CCMC 18.02.085

1. The project requires a special use permit because:

    - The propose project exceeds the maximum building height for the General Industrial zoning district of 45 feet. The proposed Wind Turbine is approximately 250 feet in height. Please also address the proposed height related to the two mix plant 150 ton silos.

    - An Asphalt Manufacturing Plant is a conditional use in the GI zoning district see 18.04.150(3).

Setbacks	Front:	Rear	Side	Street Side
Required:	30 feet	0 feet	0 feet	0 feet

Height

- The proposed building height related to this project is not in compliance with the maximum height requirement of 45 feet for the General Industrial zoning district. As noted above a Special Use Permit will be required for the Wind Turbine height exceeding 45 feet.

Signs - Development Standards Division 4.

- A Sign Permit is required prior to the placement or erection of any sign, or to install or alter any electrical wiring or fixture. See the Planning and Community Development Division for information and standards. Development Standards, Division 4

Parking- Development Standards Division 2.

1. The required number of parking spaces required for various uses are described in the parking section of CCMC, Division 2.2 of the Carson City Development Standards. Your site requires one parking space 500 square feet of the proposed AC plant. Your plan appears to not have adequate parking.

2. Parking lots adjacent to residential uses must provide proper screening. Development Standards, Division 2.3.1

Landscaping- Development Standards Division 3.

1. A landscape and irrigation plan shall be filed with the City and approved by the Director prior to the approval of a site plan or issuance of a building permit. The plan shall be prepared by a landscape architect registered in the State of Nevada, or other person permitted to prepare landscape plans pursuant to Chapter 623A of the Nevada Revised Statutes (NRS). Landscaping on all commercial/industrial projects must be installed or supervised by an individual at the job location with at least one of the following credentials: Certified Landscape Technician, Licensed Landscape Contractor, Certified Landscape Professional, ISA Certified Arborist, Registered Landscape Architect, a C10 Qualified Employee as recognized by the State Contractor's Board, or an equivalent certification, approved by the Parks & Recreation Department. (Development Standards, Division 3.3

2. The landscape plans shall include construction details for planting, staking, soil amendments and any special requirements for the project and may be an attachment to the plans. Development Standards, Division 3.3.3

3. Identification and description of automatic irrigation components to insure that vegetation is adequately serviced through water conserving features. Overhead sprinkler irrigation is only allowed on turf areas or other areas requiring overhead sprinkler irrigation. Development Standards, Division 3.3.5

4. An acknowledgment by the property owner of the required maintenance for a project must be submitted to the City as a part of landscape and irrigation plan submittals. Development Standards, Division 3.13.3

Lighting- Development Standards Division 1.

1. All nonresidential uses shall provide lighting within public parking areas and access ways to provide safety and security. All light sources shall be located and installed in such a way as to prevent spillover lighting onto adjoining properties and glare to the sky. Development Standards, Division 1.3.3

2. Any lighting facilities shall be so installed as to project light downward and away from adjoining properties and glare to the sky, with the exception of accent lighting, which is limited to a maximum upward angle of 45 degrees. Site lighting trespass onto adjacent locations and the night sky shall be minimized. Covers must be installed on all lighting fixtures and lamps must not extend below the bottom of the cover. All light fixtures, except streetlights, shall be located, aimed or shielded so as to minimize stray light trespassing beyond property boundaries. Development Standards, Division 1.3.3.1

3. All light fixtures that are required to be shielded shall be installed in such a manner that the shielding is installed as designed. Fixtures which are International Dark Sky Association approved such as Dark Sky Friendly or equivalent with full cutoff lighting for area and wall pack fixtures are recommended. Sag, convex, drop lenses and luminaries with open bulbs are prohibited. Development Standards, Division 1.3.3.2

4. Maintenance. All fixtures shall be maintained in good working order, with aiming, angles, wattage and intensity as originally approved. Replacement bulbs shall be the same or less wattage and intensity as originally approved. Fixtures and reflecting surfaces shall be cleaned on a regular schedule to reduce additional unapproved glare. Development Standards, Division 1.3.5.10

Trash Storage- Development Standards Division 1.

1. Outdoor areas used for the storage of trash or refuse must be completely enclosed by a solid gate and a six foot masonry block wall and be designed to integrate with the building and site design, including colors and materials. Enclosures shall be screened with appropriate plant materials wherever possible. Provide trash enclosure construction details with the final building permit plans. Development Standards Division 1.2.6.

2. Trash enclosures shall be designed to meet or exceed minimum size and location requirements as determined by the sanitation company and shall be located to provide unobstructed access to refuse vehicles. All trash, refuse or recycled material shall be stored in containers within its walled enclosure.

General Issues

The comments and requirements noted in this letter are based upon the adopted City codes at the time of review. The project is subject to all applicable City codes as may be amended, at the time of building permit submittal.

Please address the following in the required Special Use Permit application, in addition to the required SUP findings:

1. Proposed haul routes to and from the proposed site.

2. Include a provision for maintenance/potential repair of streets/roads-haul routes.

3. Provide the intensity of truck usage (types of vehicles and trips per day)

4. Provide hours of operation.

5. Address security of site and fencing if any.

6. Address drainage and control of runoff.

7. Provide noise and or visual buffering if any.

8. Address stock piling of materials.

9. Provide plan for phasing of the operations.

10. Provide a lighting plan.

11. Please address emissions from site if any. Is there an after treatment associated with the project?

12. Address the back up plan associated with the energy generation?

13. Please address the water usage proposed on site.

14. Please provide the required Federal Aviation Authority recommendation.

15. Provide the Carson City Airport Authority recommendation regarding the proposed project.

16. Provide an overview of the proposed project, including but not limited to specific information related to the 1.5 MW Wind Turbine and the AC Plant.

17. The subject site is located in the Eastern Portal-Virginia & Truckee Railroad Gateway Specific Plan Area (SPA). Please address the proposed project as it relates to the policies identified in the SPA document.

18. Photo simulations from at least two points are required to be submitted related to the proposed wind turbine.

19. As part of the Special Use Permit process, the Planning Division will notify the Lyon County Planning Department and provide them a copy of the proposal submitted.

FIRE DEPARTMENT- Contact Duane Lemons, Fire Inspector

1. Secondary containment will be required for any hazardous materials or hydrocarbon based liquid materials. A haz mat permit (obtain through the Nevada State Fire Marshal Office) will be required for storage of any materials meeting their definition. Here is the link to the State Fire Marshal's Haz Mat Reporting Office: http://fire.state.nv.us/Hazmat%20Office.shtml

2. The construction of any structures that can be occupied by a human inhabitant will require fire hydrant(s), or an approved alternative water supply.

3. A single access off Highway 50 is sufficient, but the end of the driveway must have an approved turn-a-round maintained. In addition, access should be maintained around any interior features that will require fire department action.

HEALTH DEPARTMENT- Contact Teresa Hayes, Environmental Health Specialist

1. After review of the proposed project, the owner of the business must provide potable water carried through the Carson City Municipal Water System.

2. As per CCMC 12. 05.020 (3) “ISDS shall be allowed in Carson City only for individual residential lots meeting the requirements of the Carson City Municipal Code.”

3. Carson City has interpreted this to mean that no commercial individual sewage disposal systems are permitted in Carson City.

4. As per CCMC 12.05.020 (2a) “an exception to the requirement of sewer connection exists when the utilities director or designee has determined that sufficient grade or fall to permit drainage to the sewer system by gravity does not exist, therefore requiring the property owner to install a pump system”

5. Carson City had interpreted this to mean that upon this declaration by the utilities director an alternative method of sewage disposal will be considered, through a plan review to determine an acceptable alternative for sewage disposal.

BUILDING DIVISION- Contact Kevin Gattis, Chief Building Official

NOTE: These comments do not constitute a complete plan review, but are merely observations based on the information provided.

GENERAL PLAN SUBMITTAL COMMENTS:

1. This project requires an application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliance with all adopted construction codes and municipal ordinances applicable to the scope of the project.

2. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled: *Commercial Submittal Requirements.* This handout may also be found online at: www.carson.org/building

3. Effective January 1, 2008, all new commercial submittals shall show compliance with the following codes, and adopted amendments:

   - 2007 Northern Nevada Amendments*
   - 2006 International Building Code
   - 2006 International Energy Conservation Code
   - 2006 International Existing Building Code
   - 2006 International Fire Code
   - 2006 Uniform Mechanical Code
   - 2006 Uniform Plumbing Code
   - 2005 National Electrical Code
   - 2003 ICC/ANSI A117.1 (For accessible design)

   *- Carson City has adopted the 2007 Northern Nevada Amendments, which are available online at both the Carson City Building Division website and the Northern Nevada Chapter of the International Code Council (NNICC) at www.nnicc.org. With the adoption of the amendments, the snow and wind loads have increased within Carson City.

4. Provide a **Geotechnical Report** for the proposed construction. The Geotechnical Report for the proposed location shall include a complete assessment of the potential consequences of any liquefaction and soil strength loss, including estimation of differential settlement, lateral movement or reduction in foundation soil-bearing capacity, and shall address mitigation measures. (*'06 IBC 1802.2 & 1802.2.7 #2*)

COMMENTS APPLICABLE TO THE WIND TURBINES:

5. The plan submittal for the wind turbines shall comply with the prescriptive requirements outlined within the Carson City Building Division handout titled *PLAN SUBMITTAL REQUIREMENTS: Wind Electrical Systems.*

ENGINEERING AND UTILITIES- Contact Rory Hogen, Assistant Engineer

This Division has completed a review of the above referenced project. The following documents were reviewed:

- Report submitted by Far West Aggregate and Asphalt, no date. It is located near the county line just south of Hwy. 50 E. The apns are 08-611-31, 33, -35, -37 and others.

Based on our review, the following comments are offered:

1. Any engineering work done on this project must be wet stamped and signed by an engineer licensed in Nevada.
2. Issues with airport interference must be specifically addressed. We will need written verification from Carson Airport and the FAA.
3. Construction drawings must be submitted, including a site plan, grading and drainage plan, erosion control plan (see section 13 of Carson City Development Standards) and utility plan if water is to be used.
4. Please verify that water from the tank can be used for this project.
5. A geotechnical report must be submitted for this project. See section 17 of the Carson City Development Standards (CCDS).
6. If an extension of the water line is being contemplated for dust control, a water use form must be submitted with the special use permit. This must include back up data and all calculations.
7. Generally Carson City does not allow potable water for dust control. Reclaimed water is required.
8. A Storm Water Pollution Prevention Permit may be required from Nevada Division of Environmental Protection if surface disturbance exceeds one acre.
9. A dust control permit (also from NDEP) may also be required if disturbance is more than 5 acres.
10. A wet stamped traffic analysis may be required according to section 12 of CCDS. The issue of trucks leaving and entering Hwy 50 E. must be addressed (at a minimum). It may be difficult to trucks to turn left onto Hwy. 50 westbound. Hwy. 50 is a Nevada Department of Transportation right of way. Please contact NDOT to see what they will require.
11. NDOT may required an agreement involving pavement maintenance at the entrance to Hwy. 50 depending on how many trucks are expected to enter and leave the site.
12. A Technical Drainage Study may be required according to Section 14 of CCDS. This could be just a wet stamped letter, but we will need to see calculations for storm flows across the property as well as addressing possible off site flows.

These comments are based on a very general site plan and do not indicate a complete review. All pertinent requirements of Nevada State Law, Carson City Code, and Carson City Development Standards will still apply whether mentioned in this letter or not.

The aforementioned comments are based on the Major Project Review Committee's review. If you have any questions, please feel free to contact the following members of staff, Monday through Friday 8:00 AM to 4:00 PM.

Planning Division –
Jennifer Pruitt, Principal Planner
(775) 887-2180
Email: jpruitt@carson.org

Engineering Division –
Rory Hogen, Assistant Engineer
(775) 887-2300
Email: rhogen@carson.org

Building Division –
Kevin Gattis, Chief Building Official
(775) 887-2310
Email: kgattis@carson.org

Fire Prevention –
Duane Lemons, Fire Inspector
(775) 887-2210
Email: dlemons@ci.carson-city.nv.us

Health Department –
Teresa Hayes, Environmental Health Specialist
(775) 887-2190
Email: thayes@ci.carson-city.nv.us

Sincerely,
Public Works, Planning Division

Jennifer Pruitt

Jennifer Pruitt, AICP, LEED AP

cc: Major Project Review Committee
MPR-10-098

Attachments:
SUP application
Water usage form
V&T SPA document

Civil Engineering
Surveying
Water Resources Management
Water & Wastewater Engineering
Supply Chain Logistics
Construction Management
Environmental Sciences
Landscape Architecture
Land Planning

December 16, 2010

Response to Major Project Review Comments
From November 15, 2010

PLANNING DIVISION

1. The proposed electric/gas plant is permitted by right by zoning district.

2. The proposed Asphalt Plant is permitted by Special Use Permit.

Special Use Permit, CCMC 18.02.080 or Variance, CCMC 18.02.085

- The project requires a special use permit because:

    - The proposed project exceeds the maximum building height for the General Industrial zoning district of 45 feet. The proposed Wind Turbine is approximately 250 feet in height. Please also address the proposed height related to the two mix plant 150 ton silos.

      The proposed Wind Turbine height has been reduced to approximately 225 feet to accommodate requirements of the Federal Aviation Administration (FAA). The height of the two mix plant 150 ton silos is 75 feet.

    - An Asphalt Manufacturing Plant is a conditional use in the GI zoning district, see 18.04.150(3).

Setbacks	Front:	Rear:	Side:	Street Side:
Required:	30 feet	0 feet	0 feet	0 feet

All required setbacks will be adhered to with the proposed project.

Height

- The proposed building height related to this project is not in compliance with the maximum height requirement of 45 feet for the General Industrial zoning district. As noted above, a Special Use Permit will be required for the Wind Turbine height exceeding 45 feet.

Signs – Development Standards Division 4.

- A Sign Permit is required prior to the placement or erection of any sign, or to install or alter any electrical writing or fixture. See the Planning and Community Development Division for information and standards. Development Standards, Division 4.

  A sign is not proposed as a part of this project, therefore this comment is not applicable.

Parking – Development Standards Division 2.

1. The required number of parking spaces required for various uses are described in the parking section of CCMC, Division 2.2 of the Carson City Development Standards. Your site requires one parking space per 500 square feet of the proposed AC plant. Your plan appears to not have adequate parking.

   Per discussions with Carson City Planning staff, one (1) parking space would be required to provide adequate parking. Three (3) parking spaces have been provided, exceeding the minimum requirement.

2. Parking lots adjacent to residential uses must provide proper screening. Development Standards, Division 2.3.1.

   Not applicable – the proposed project is not adjacent to residential uses.

Landscaping – Development Standards Division 3.

1. A landscape plan and irrigation plan shall be filed with the City and approved by the Director prior to the approval of a site plan or issuance of a building permit. The plan shall be prepared by a landscape architect registered in the State of Nevada, or other person permitted to prepare landscaping plans pursuant to Chapter 623A of the Nevada Revised Statutes (NRS). Landscaping on all commercial/industrial projects much be installed or supervised by an individual at the job location with at least one of the following credentials: Certified Landscape Technician, Licensed Landscape Contractor, Certified Landscape Professional, ISA Certified Arborist, Registered Landscape Architect, a C10 Qualified Employee as recognized by the State Contractor's Board, or an equivalent certification, approved by the Parks & Recreation Department (Development Standards, Division 3.3).

2. The landscape plans shall include construction details for planting, staking, soil amendments and any special requirements for the project and may be an attachment to the plans (Development Standards, Division 3.3.3).

3. Identification and description of automatic irrigation components to insure that vegetation is adequately serviced through water conserving features. Overhead sprinkler irrigation is only allowed on turf areas or other areas requiring overhead sprinkler irrigation (Development Standards, Division 3.3.5).

4. Any acknowledgment by the property owner of the required maintenance for a project must be submitted to the City as a part of landscape and irrigation plan submittals. (Development Standards, Division 3.13.3).

   Landscape plans will be submitted as a part of building permit application and all of the comments above will be addressed at that time.

Lighting – Development Standards Division 1.

1. All non-residential uses shall provide lighting within public parking areas and access ways to provide safety and security. All light sources shall be located and installed in such a way as to prevent spillover lighting onto adjoining properties and glare to the sky (Development Standards, Division 1.3.3).

   Lighting will be installed on adjacent to the proposed parking spaces (as shown on the site plan). Lighting will also be installed on asphalt plant and aggregate facilities,

however, specifics are undetermined at this time and will be submitted for review and approval with the building permit application. Temporary lighting will be used if operations occur during non-daylight hours, which is not expected to occur regularly. Permanent lighting fixtures will comply with dark skies and shielding requirements as necessary.

2. Any lighting facilities shall be so installed as to project light downward and away from adjoining properties and glare to the sky, with the exception of accent lighting, which is limited to a maximum upward angle of 45 degrees. Site lighting trespass onto adjacent locations and the night sky shall be minimized. Covers must be installed on all lighting fixtures and lamps must not extend below the bottom of the cover. All light fixtures, except streetlights, shall be located, aimed or shielded so as to minimize stray light trespassing beyond property boundaries (Development Standards, Division 1.3.3.1).

   The applicant will comply with this requirement.

3. All light fixtures that are required to be shielded shall be installed in such a manner that the shielding is installed as designed. Fixtures which are International Dark Sky Association approved such as Dark Sky Friendly or equivalent with full cutoff lighting for area and wall pack fixtures are recommended. Sag, convex, drop lenses and luminaries with open bulbs are prohibited (Development Standards, Division 1.3.3.2).

   The applicant will comply with this requirement.

4. Maintenance. All fixtures shall be maintained in good working order, with aiming, angles, wattage and intensity as originally approved. Replacement bulbs shall be the same or less wattage and intensity as originally approved. Fixtures and reflecting surfaces shall be cleaned on a regular schedule to reduce additional unapproved glare (Development Standards, Division 1.3.5.10).

   The applicant will comply with this requirement.

Trash Storage – Development Standards Division 1.

1. Outdoor areas used for the storage of trash or refuse must be completely enclosed by a solid gate and a six foot masonry block wall and be designed to integrate with the building and site design, including colors and materials. Enclosures shall be screened with appropriate plant materials whenever possible. Provide trash enclosure construction details with the final building permit plans (Development Standards Division 1.2.6).

   A detail for the proposed trash enclosure has been provided on the site plan for review.

2. Trash enclosures shall be designed to meet or exceed minimum site and location requirements as determined by the sanitation company and shall be located to provide unobstructed access to refuse vehicles. All trash, refuse or recycled material shall be stored in containers within its walled enclosure.

   Waste Management has been contacted to obtain approval for the proposed trash enclosure location and detail, and an approval is anticipated prior to this project being heard by the Planning Commission.

General Issues

The comments and requirements noted in this letter are based upon the adopted City codes at the time of review. The project is subject to all applicable City codes, as may be amended, at the time of building permit submittal.

Please address the following in the required Special Use Permit Application, in addition to the required SUP findings:

1. Proposed haul routes to and from the proposed site.

   The proposed haul routes to and from the site will be along a private access road that is a part of the subject property, and then will continue to U.S. Highway 50 in both the east and west directions. An NDOT encroachment permit currently exists in this location for ingress and egress on U.S. Highway 50.

2. Include a provision for maintenance/potential repair streets/roads – haul routes.

   The entire access road from the site to U.S. Highway 50 is private and will be maintained for adequate truck passage. The access onto the highway will be maintained as required with the conditions of the existing NDOT occupancy permit.

3. Provide the intensity of truck usage (types of vehicles and trips per day).

   Approximately 12 trips round trips (in and out) are anticipated during peak production hours for the hauling of materials via trucks, which equates to a maximum of 132 total trips per day (assuming peak at all times and 11 hours of operation). The types of haul trucks may include water trucks, belly dumps, end dumps, flat beds, low beds and transfers, and pictures of the proposed have been provided as a part of this application.

4. Provide hours of operation.

   Hours of operation are proposed to be from 7am to 6pm, Monday through Saturday. After hours work may be proposed occasionally, but on a temporary basis and with at least three (3) days notice.

5. Address security of site and fencing, if any.

   The site is currently completely fenced and bermed including a gated entrance, and lighting will be provided as outlined in the lighting section above to provide additional security.

6. Address drainage and control of runoff.

   Drainage is completely maintained onsite and the site is located in a depression with no release point, therefore runoff is not expected. Please refer to the drainage letter included under the Project Impact Reports Information section of this submittal.

7. Provide noise and/or visual buffering, if any.

   Visual buffering is provided with a 10' high berm that exists around the majority of the site. Sound data for the wind turbine and the asphalt operation have been included as a part of this submittal. Noise is not anticipated to be above maximum decibel levels allowed for the asphalt and aggregate crushing operations or the wind turbine.

8. Address stock piling of materials.

   Onsite stockpiles will be maintained within the stormdrain containment area.

9. Provide a plan for phasing of operations.

   Phasing of the operations is as follows: 1) Gas & Site Infrastructure; 2) Crushing Facility Assembly; 3) Asphalt Plant Assembly, Turbine & Footer Construction; 4) Rock Production; 5) Asphalt Production; 6) Asphalt Sales; 7)Installation of Burner-less Drum System

10. Provide a lighting plan.

    Per discussions with Carson City Planning Staff, this requirement is not applicable.

11. Please address emissions from the site, if any. Is there an after treatment associated with the project?

    The applicant is currently working to obtain emissions data, however, because the plant will be operated with wind and natural gas power, emissions for the plant will be significantly reduced. An after treatment for the project is not proposed.

12. Address the back up plan associated with the energy generation.

    A natural gas generation set is proposed as back-up for the energy generation from the wind turbine.

13. Please address the water usage proposed on site.

    A water truck with non-potable water from Carson City will be used for dust control and crushing operations. Domestic water is not proposed for the site, however, a warehouse building adjacent to the project site will be leased and will provide restroom facilities with existing water and sewer.

14. Please provide the required Federal Aviation Authority recommendation.

    Recommendation from the Federal Aviation Authority is in process and should be received prior to this project being heard by the Planning Commission.

15. Provide the Carson City Airport Authority recommendation regarding proposed project.

    Recommendation from the Federal Aviation Authority is in process and should be received prior to this project being heard by the Planning Commission.

16. Provide an overview of the proposed project, including but not limited to specific information related to the 1.5 MW Wind Turbine and the AC Plant.

    A detailed project description has been provided as a part of this application.

17. The subject site is located in the Easter Portal-Virginia & Truckee Railroad Gateway Specific Plan Area (SPA). Please address the proposed project as it relates to the policies identified in the SPA document.

The project's relation to the V&T-SPA has been addressed in the Proposal Questionnaire included as a part of this application.

18. Photo simulations from at least two points are required to be submitted related to the proposed wind turbine.

    Photo simulations are in process and will be completed prior to this project being heard by the Planning Commission.

19. As a part of the Special Use Permit process, the Planning Division will notify the Lyon County Planning Department and provide them a copy of the proposal submitted.

FIRE DEPARTMENT

1. Secondary containment will be required for any hazardous materials or hydrocarbon based liquid materials. A haz mat permit (obtained through the Nevada State Fire Marshal Office) will be required for storage of any materials meeting their definition. Here is the link to the State Fire Marshal's Haz Mat Reporting Office: http://fire.state.nv.us/Hazmat%20Office.shtml

   The applicant will comply with this requirement.

2. The construction of any structures that can be occupied by a human inhabitant will require fire hydrant(s), or an approved alternative water supply.

   Buildings proposed for human inhabitants are not included as a part of this project.

3. A single access off Highway 50 is sufficient, but the end of the driveway must have an approved turn-around maintained. In addition, access should be maintained around any interior features that will require fire department action.

   A proposed turnaround has been included on the site plan for review. Access will be maintained around any interior features that will require fire department action.

HEALTH DEPARTMENT

1. After review of the proposed project, the owner of the business must provide potable water carried through the Carson City Municipal Water System.

2. As per CCMC 12.95.929 (3) "ISDS shall be allowed in Carson City only for individual residential lots meeting the requirements of the Carson City Municipal Code."

3. Carson City has interpreted this to mean that no commercial individual sewage disposal systems are permitted in Carson City.

4. As per CCMC 12.05.020 (2a) "an exception to the requirement of sewer connection exists when the utilities director or designee has determined that sufficient grade or fall to permit drainage to the sewer system by gravity does not exist, therefore requiring the property owner to install a pump system."

5. Carson City has interpreted this to mean that upon this declaration by the utilities director an alternative method of sewage disposal will be considered, through a plan review to determine acceptable alternative for sewage disposal.

   The applicant does not propose any municipal water or sewer connection as a part of the project. However, the applicant does intend to lease a warehouse building adjacent to the

site for office uses associated with the proposed operations. Restroom facilities including domestic water and sewer connection are existing within this building. A letter from the building owner has been included in the Supporting Documentation section of this application to confirm the applicant's intention to lease the building.

BUILDING DIVISION

NOTE: These comments do not constitute a complete plan review, but are merely observations based on the information provided.

GENERAL PLAN SUBMITTAL COMMENTS:

1. This project requires an application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliant with all adopted construction codes and municipal ordinances applicable to the scope of the project.

   The applicant will comply with this requirement.

2. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled: *Commercial Submittal Requirements.* This handout may also be found online at www.carson.org/building.

   The applicant will comply with this requirement.

3. Effective January 1, 2008, all new commercial submittals shall show compliance with the following codes, and adopted amendments.

   - 2007 Northern Nevada Amendments*
   - 2006 International Building Code
   - 2006 International Energy Conservation Code
   - 2006 International Existing Building Code
   - 2006 International Fire Code
   - 2006 Uniform Mechanical Code
   - 2006 Uniform Plumbing Code
   - 2005 National Electrical Code
   - 2003 ICC/ANSI A117.1 (For accessible design)

   *Carson City has adopted the 2007 Northern Nevada Amendments, which are available online at both the Carson City Building Division website and the Northern Nevada Chapter of the International Building Code Council (NNICC) at www.nnicc.org. With the adoption of the amendments, the snow and wind loads have increased within Carson City.

   The applicant will comply with this requirement.

4. Provide a **Geotechnical Report** for the proposed construction. The Geotechnical Report for the proposed location shall include a complete assessment of the potential consequences of any liquefaction and soil strength loss, including estimation of differential settlement, lateral movement or reduction in foundation soil-bearing capacity, and shall address mitigation measures. *('06 IBC 1802.2 & 1802.2.7 #2)*

   A geotechnical report will be provided with the building permit submittal for this project.

   All building department comments will be addressed at the time of building permit submittal.

COMMENTS APPLICABLE TO THE WIND TURBINE:

5. The plan submittal for the wind turbine shall comply with the prescriptive requirements outlined within the Carson City Building Division handout titled *PLAN SUMITTAL REQUIREMENTS: Wind Electrical Systems.*

   The applicant will comply with this requirement.

ENGINEERING AND UTILTIES

This Division has completed a review of the above referenced project. The following documents were reviewed:

- Report submittal by Far West Aggregate and Asphalt, no date. It is located near the county line just south of Hwy 50 East. The APNs are 08-611-31, -33, -35, -37 and others.

Based on our review, the following comments are offered:

1. Any engineering work done on this project must be wet stamped and signed by an engineer licensed in Nevada.

   The applicant will comply with this requirement.

2. Issues with airport interference must be specifically addressed. We will need written verification from Carson Airport and the FAA.

   As identified earlier in this response document, recommendations from both the Carson City Airport and the FAA are anticipated prior to this project being heard by the Planning Commission.

3. Construction drawings must be submitted, including a site plan, grading and drainage plan, erosion control plan (see section 13 of Carson City Development Standards) and utility plan if water is to be used.

   The applicant will comply with this requirement at with the building permit submittal.

4. Please verify that water from the tank can be used for this project.

   Domestic water connection is not anticipated as a part of this project.

5. A geotechnical report must be submitted for this project. See section 17 of the Carson City Development Standards (CCDS).

   A geotechnical report will be submitted as a part of the building permit application for this project.

6. If an extension of the water line is being contemplated for dust control, a water use form must be submitted with the special use permit. This must include back up data and all calculations.

   Not applicable.

7. Generally Carson City does not allow potable water for dust control. Reclaimed water is required.

   Reclaimed water will be used for dust control associated with this project.

8. A Storm Water Pollution Prevention Permit may be required from Nevada Division of Environmental Protection if surface disturbance exceeds one acre.

   The applicant will comply with this requirement if it is necessary.

9. A dust control permit (also from NDEP) may also be required if disturbance is more than 5 acres.

   The applicant will comply with this requirement if it is necessary.

10. A wet-stamped traffic analysis may be required according to section 12 of CCDS. The issue of trucks leaving and entering highway 50 E must be addressed (at a minimum). It may be difficult for trucks to turn left onto Hwy 50 westbound. Hwy 50 is a Nevada Department of Transportation right of way. Please contact NDOT to see what they will require.

    A traffic study has not been provided because the number of anticipated trips generated is not anticipated to be greater than that of the existing aggregate facility already located at the site. An NDOT encroachment permit currently exists for this site and there is a center lane in U.S. Highway 50 that is used for left turns into and out of the site.

11. NDOT may require an agreement involving pavement maintenance at the entrance to Hwy 50 depending on how many trucks are expected to enter and leave the site.

    An encroachment permit with NDOT exists that address the pavement maintenance at the entrance to U.S. Highway 50.

12. A Technical Drainage Study may be required according to Section 14 of CCDS. This could just be a wet-stamped letter, but we will need to see calculations for storm flows across the property as well as addressing possible off-site flows.

    A wet-stamped letter addressing drainage has been provided and is included in the Project Impact Report Information section of this application.

These comments are based on a very general site plan and do not indicate a complete review. All pertinent requirements of Nevada State Law, Carson City Code, and Carson City Development Standards will still apply whether mentioned in this letter or not.

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Landscape Architecture
Land Planning

December 16, 2010

RE: Far West Hybrid Asphalt & Aggregate Plant
Project Impact Report Information

The following information pertains to the Project Impact Reports associated with the proposed Far West Hybrid Asphalt & Aggregate Plant and associated Wind Turbine Special Use Permit.

1. Drainage Study – A drainage letter has been provided addressing drainage on the site, as well as runoff and is included with this section of the Special Use Permit Application.

2. Water & Sewer Reports: The applicant does not propose any municipal water or sewer connection as a part of the project. However, the applicant does intend to lease a warehouse building adjacent to the site for office uses associated with the proposed operations. Restroom facilities including domestic water and sewer connection are existing within this building. A letter from the building owner has been included in the Supporting Documentation section of this application to confirm the applicant's intention to lease the building.

3. Traffic Study: A traffic study has not been provided because the number of anticipated trips generated is not anticipated to be greater than that of the existing aggregate facility already located at the site. An NDOT encroachment permit currently exists for this site and there is a center lane in U.S. Highway 50 that is used for left turns into and out of the site.

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December 14, 2010

Rory Hogan, Assistant Engineer
Carson City Engineering Division
108 E. Proctor St.
Carson City, NV 89701

RE: Farwest Hybrid Asphalt Concrete Plant
Special Use Permit Conceptual Drainage Letter

Introduction

Using the existing Hilltop Aggregate Pit quarry located at 8013 US Hwy 50 East, proposed improvements involve the installation and operation of a Hybrid Asphalt Concrete Plant. The existing site is an aggregate pit with a crushed aggregate surface surrounded by 2:1 slopes for the majority of the pit. The crushed aggregate surface is graded to create a local depression that traps water on site. See the Special Use Permit Plan for more information on location and general site layout.

Existing and Proposed Hydrology

The existing drainage basin is the outline of the pit itself, which is in a depression relative to the surrounding area. The uphill drainage from the north and east is being cut off and carried away by the existing railroad drainage facilities above the pit. As there are no grading changes being proposed for the project, the drainage basin will remain the same as existing. Since the site is currently in a depression all regular storm events are retained on site.

Proposed Drainage Facilities

Proposed improvements will not change the hydraulic characteristics of the site. The existing crushed aggregate surface and all the slopes will remain and proposed improvements will not alter the existing grading in the aggregate pit. All proposed structures with the exception of the wind turbine are not permanent structures. These structures include all of the modular units of the hybrid AC plan as well as the aggregate crusher unit which are transported to the site and placed on temporary footings. There are no drainage facilities being proposed for the asphalt concrete plans and wind turbine improvements.

Conclusion

In conclusion drainage improvements are not necessary to support the proposed use of the site. Specifically under the proposed project:

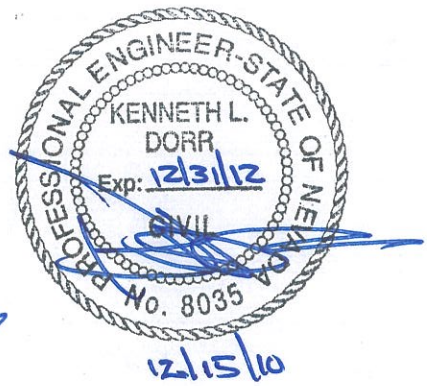
- The impervious area of the site will not be altered;
- The drainage area for the project will remain the same as present - perpetuating the site in a depression;
- Drainage facilities are not required to handle off-site discharge since storm water will not discharge from the site for any reasonable foreseeable storm event.

Exhibits

Please see the attached Special Use Permit Plan included with the Permit application.

If you have any questions or comments regarding the information provided in this letter, please don't hesitate to call.

Thank you,



Kenneth L. Dorr, P.E.
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Manhard Consulting LTD.

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Staff Engineer
Manhard Consulting LTD.

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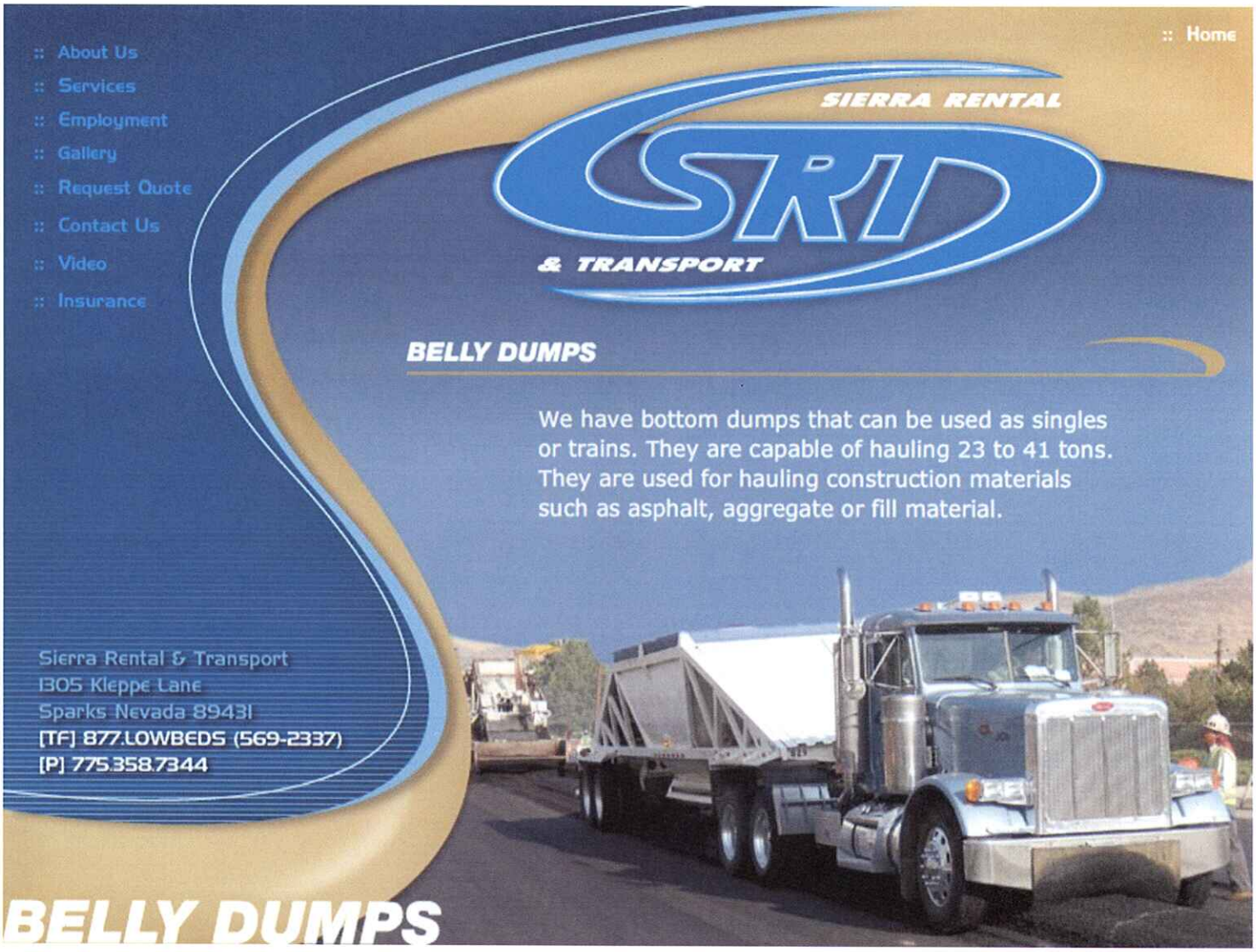
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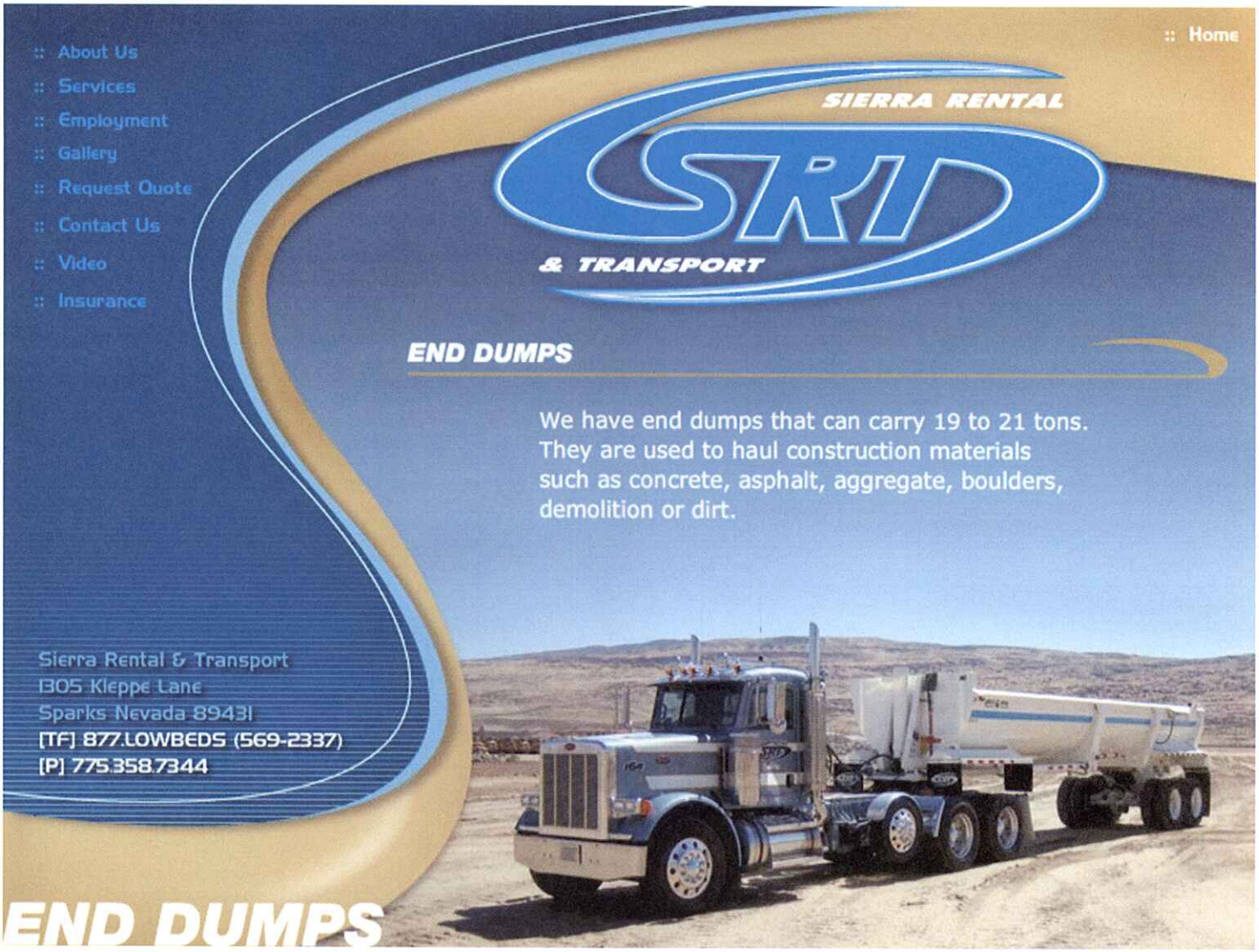
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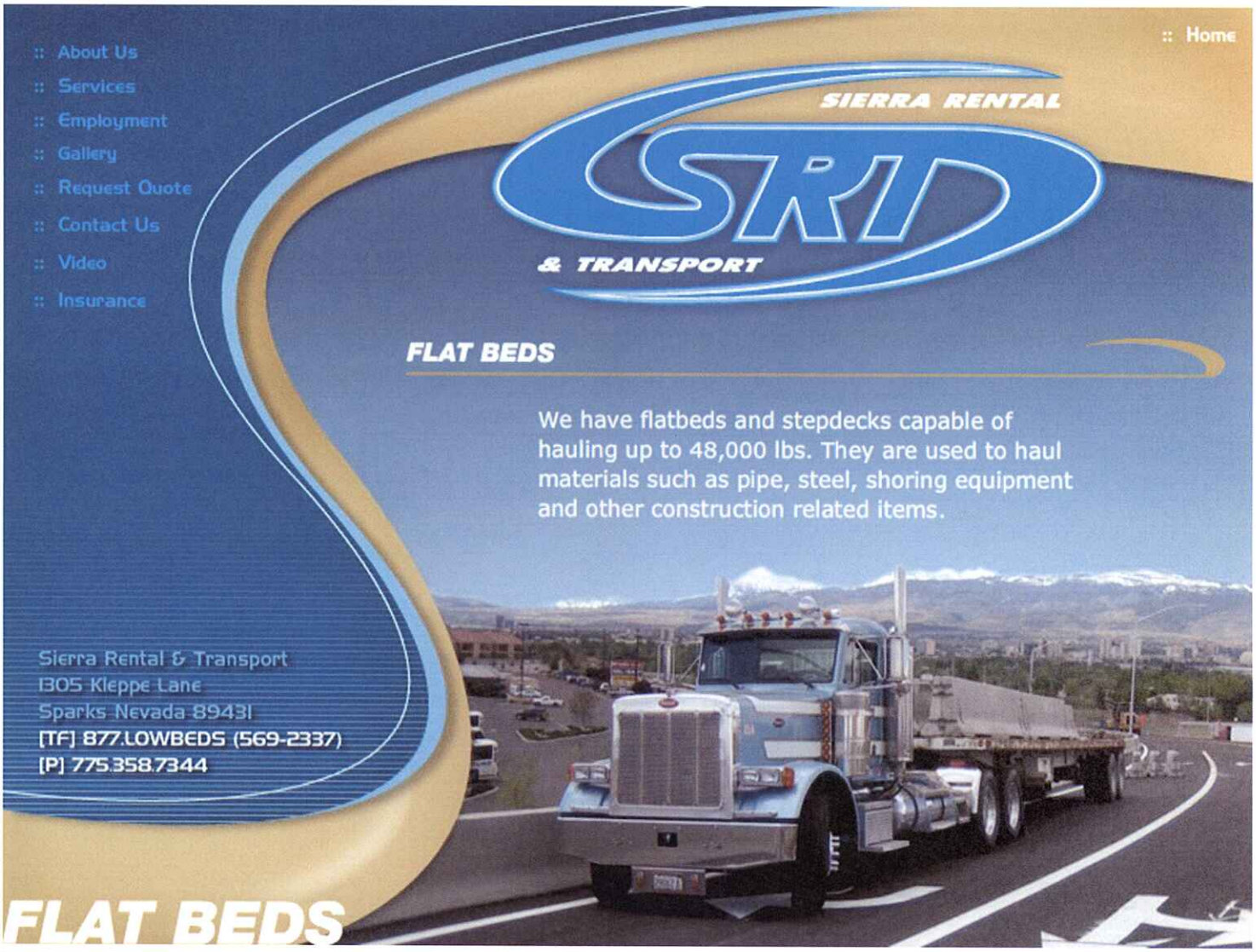
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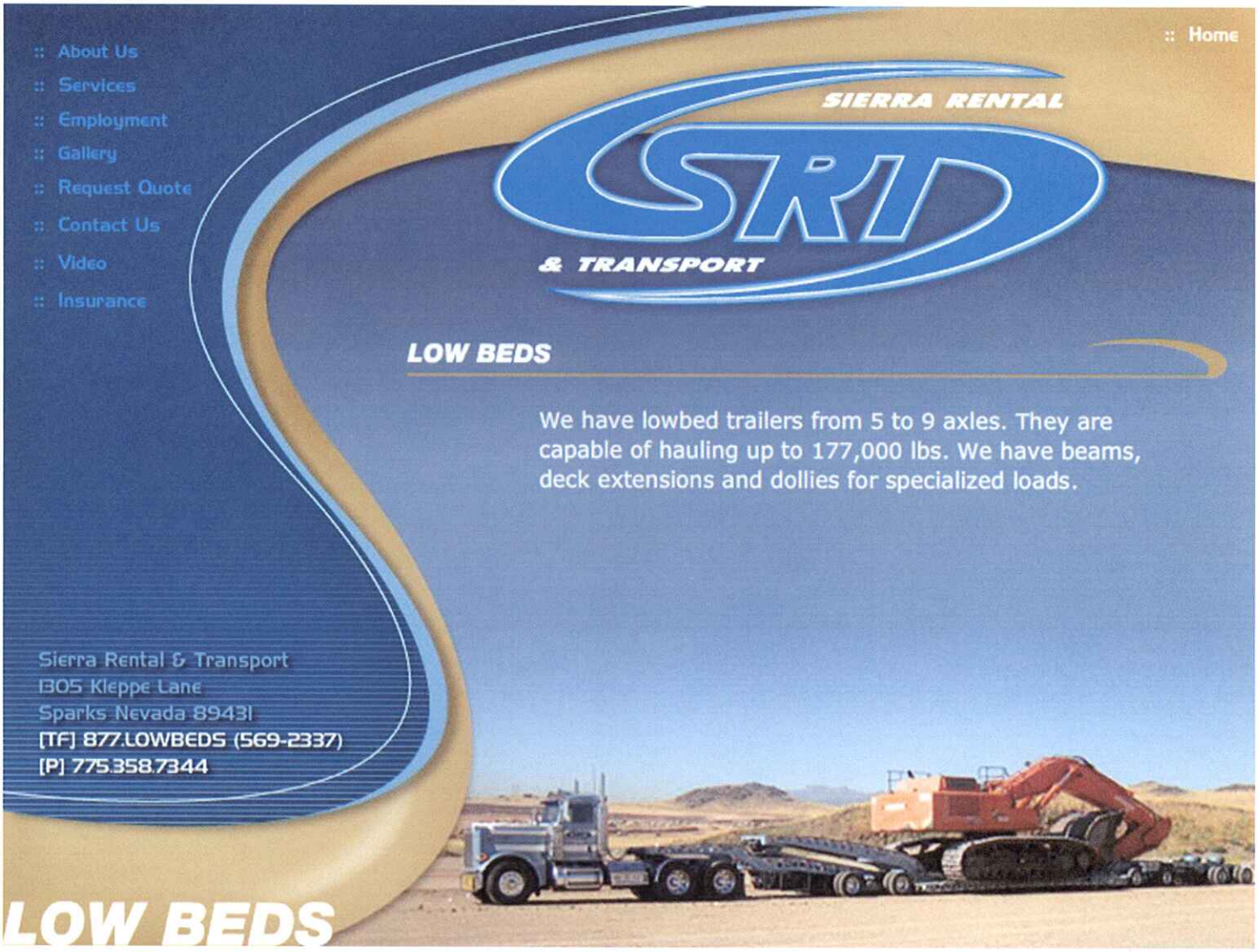
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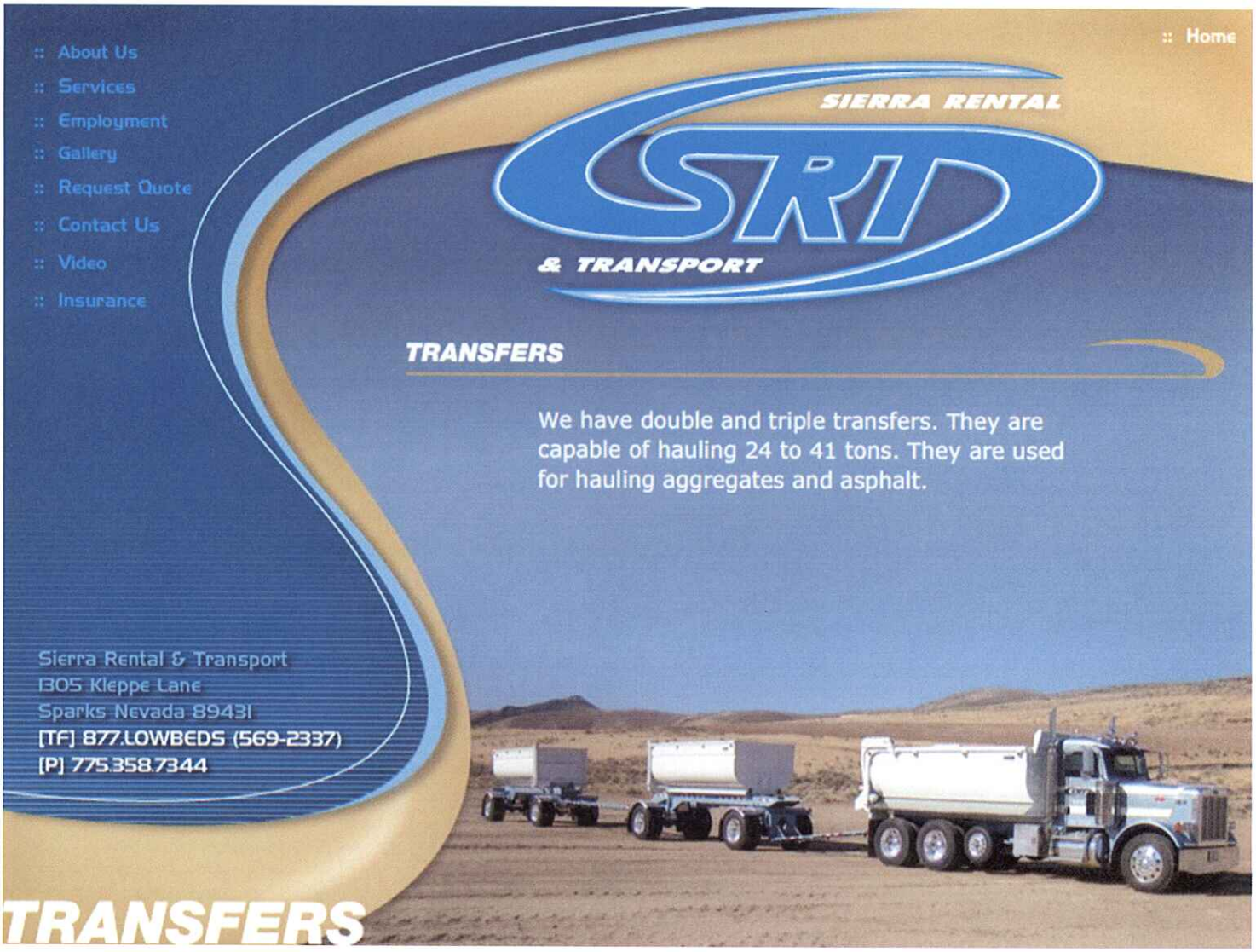
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WEST HILL WINDPOWER PROJECT
SOUND LEVEL REPORT
MARCH 27, 2006

INTRODUCTION

Tetra Tech EC, Inc. (Tetra Tech) performed computer modeling in order to calculate sound levels that would be generated by operation of the proposed West Hill Windpower Project, located in Madison County, New York, near the small towns of Stockbridge and Munnsville. The commercially available CadnaA model, developed by Datakustik GmBH, was used for this analysis. The software takes into account spreading losses, ground and atmospheric effects, shielding from terrain, barriers and buildings, and reflections from surfaces. The software is standards-based and the ISO 9613 standard was used for air absorption and other noise propagation calculations (ISO, 1989).

West Hill Windpower, LLC proposes to install and operate twenty-five (25) of the GE 1.5 MW wind turbines for the proposed project. All of the turbines were assumed to be operating at their maximum sound level, which occurs at wind speeds of 8 m/sec and above, as measured at 10 meters above the ground. The wind turbine hub is located 80 meters above the ground. The predicted sound level standing directly under one wind turbine under these operating conditions is 54 dBA.

The model results are presented in two ways. First, we depict noise contours that show the distribution of noise levels from 45 dBA up to 55 dBA over the entire project area. Secondly, we depict the calculated sound level at specific receptor points, which are the nearest residences. Both the noise contours and the receptors are overlaid on the same topographic map of the area. Predicted levels at the specific receptor points are presented in tabular format.

APPLICABLE NOISE STANDARDS AND ORDINANCES

The New York State Department of Environmental Conservation (NYSDEC) document entitled *Assessing and Mitigating Noise Impacts (NYSDEC*, Feb 2, 2001) provides the following guidance for assessing noise impacts:

TABLE 1

EFFECT OF INCREASES IN NOISE LEVELS ON RECEPTORS

Increase in Existing Ambient Sound Levels (dBA)	**Expected Effect on Receptors**
0 – 3	No appreciable effect
3 - 6	Potential for adverse noise impact only in cases where the most sensitive receptors are present
> 6	Potential noise impact. Requires a closer analysis of impact potential depending on existing SPLs and the character of surrounding land use and receptors.
10	Perceived as a doubling of the sound level

The Town of Stockbridge has a reported wind power ordinance that limits noise at residences to no more than 50 dBA from wind turbines.

Table 2 below provides examples of sound levels of common sources of noise.

Table 2

TYPICAL A-WEIGHTED* SOUND LEVELS

Sound Level (dBA)	Location/Source	Subjective Impression
180	Rocket Engine @ 3 ft.	Severe pain
160	Sonic Boom	
140	Threshold of Pain	Slight Pain
130	Hydraulic Press @ 3 ft.	
120	Pneumatic Riveter @ 3 ft.	Extremely Loud
110	Unmuffled Motorcycle @ 3 ft.	
100	Chain Saw @ 3 ft.	Very Loud
90	Train @ 100 ft.	
80	Truck Traffic @ 50 ft.	Moderately Loud
70	Auto Traffic @ 50 ft.	
60	Normal Conversation	Typical
50	Typical Office	
40	Bedroom at Night	Quiet
30	Soft Whisper	
20	Sound Test Booth	Very Quiet
10	Breathing	
0	Threshold of Hearing	No Sound

Source: Holman, 1978; and Stusnick et al., 1981. Compiled by T. Adams.
*A-weighted sound levels are levels that have been adjusted to match the frequency response of the human auditory system.

NOISE MODEL INPUT DATA

The sound power level of a typical GE 1.5 MW wind turbine was obtained on an octave band basis from GE's "Technical Documentation Wind Turbine Generator System GE 1.5sl/sle 50 & 60 Hz, Noise Emission Characteristics" document. The data are provided as A-weighted (dBA) octave band sound power levels (PWL) in decibels (referenced to 10^{-12} watts). Sound power is a measure of the total acoustic power generated by a sound source and is independent of distance from the source. Prior to entering the levels into the model, the A-weighting factors were added back in to produce un-weighted (dB) levels used by the model. The A-weighting factors adjust the levels at different frequencies to approximate the frequency response of the human auditory

system. The modeling results are converted back to A-weighting for comparison with noise ordinance or standards levels.

The un-weighted octave band sound power levels are presented in Table 3 below.

Table 3

Sound Power Levels for GE 1.5 MW Wind Turbines

	Octave Band Center Frequency (Hertz)									
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Total (dBA)**	**Total (dB)**
PWL (dB re: 10^{-12} watts)	111.3	110.1	105.8	101.8	97.9	93.3	86.3	79.2	101.7	104.0

RESULTS

The noise contour map is presented in Figure 1. The predicted level directly under each turbine is 54 dBA and the area for potential impacts is very small right around the turbines (600 to 1000 feet depending upon the ambient noise level).

Forty-five decibels is the approximate ambient or background level in rural environments with little or no wind (NYS DEC, Feb.2, 2001). Ambient levels would be expected to be at least 10 dBA higher, or about 55 dBA, in areas with the higher wind speeds associated with wind turbine operation. That is, the wind produces noise that raises the background noise level.

Predicted sound levels at the seventy-seven (77) nearest residences vary from 33.8 to 44.4 dBA (Table 4). The last two columns of the table show the calculated increase in assumed existing ambient levels of 45 and 55 dBA. These increases range from 0.4 to 1.2 dBA with an ambient level of 45 dBA, and from zero to only 0.4 dBA when the ambient level is at 55 dBA. Considering that the actual ambient level would be higher at about 55 dBA or greater during windy conditions, the results presented in the last column are more realistic at a zero to 0.4 dBA predicted increase in levels. Typically, increases in ambient levels ranging from 0-3 dBA would have no appreciable effect on receptors. Thus, the sound from the turbines would not produce a significant noticeable noise impact at either ambient level.

TABLE 4
Predicted Sound Levels at Nearest Receptors to Turbines

Predicted Sound Level Range	Number of Residences within Range	Predicted Increase in 45 dBA Ambient (dBA)	Predicted Increase in 55 dBA Ambient (dBA)
33.8 – 34.9	6	0.3 – 0.4	0
35 – 39.9	55	0.4 – 1.2	0 – 0.1
40 – 44.4	16	1.2 – 2.7	0.1 – 0.4

The predicted sound level at every nearby residence is below the 50 dBA maximum in the Town of Stockbridge noise regulations. In addition, the predicted increases in sound levels over the existing ambient are below the 6 dBA increase identified by the NYS DEC as having the potential to produce a noise impact. Thus, noise levels from the proposed West Hill Windpower Project are in compliance with all applicable guidelines and ordinances and will not produce a noise impact.

Table 5 presents the predicted sound level results in 100-foot increments from the base of a turbine extending from 100 feet to 2000 feet. The results include the sound dampening effects of relatively soft and absorptive ground with grasses, brush and trees.

TABLE 5
Predicted Sound Levels in 100-ft Increments from Turbine Base

Distance from Base of Turbine (feet)	Predicted Sound Level (dBA)
100	51.9
200	44.7
300	39.5
400	35.9
500	33.1
600	31.1
700	29.3
800	27.9
900	26.8
1000	26.7
1100	26.5
1200	26.5
1300	26.7
1400	27.1
1500	27.4
1600	28.2
1700	27.8
1800	28.1
1900	28.3
2000	28.3

CONCLUSION

Predicted sound levels from the turbines operating at maximum sound level producing conditions are quite low at the residences (i.e., < 45 dBA) and would not add significantly to existing ambient sound levels nor create a significant noise impact. In general, the turbines would be inaudible at most residences. Predicted levels are in compliance with all applicable guidelines and ordinances.

REFERENCES:

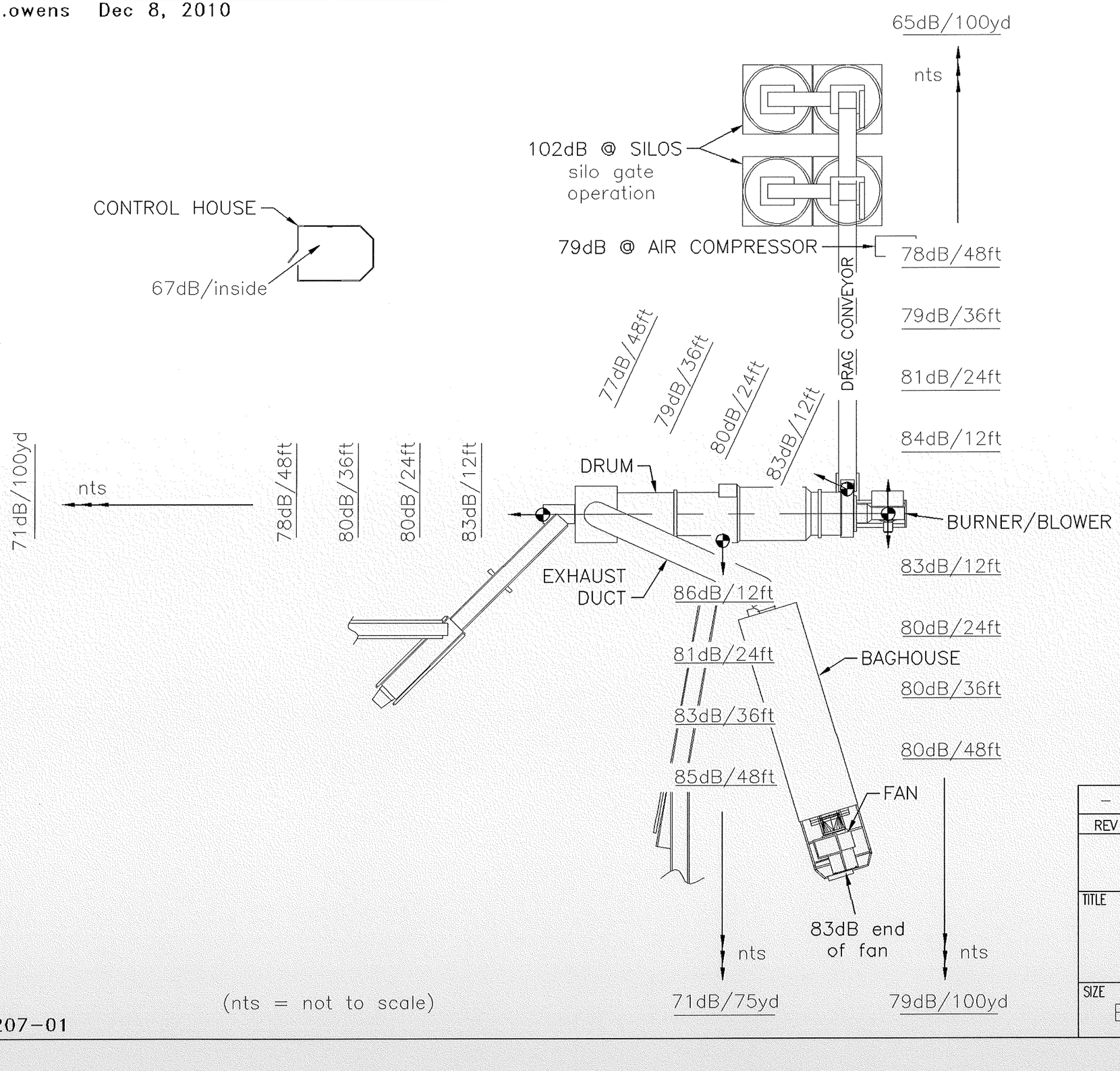
DataKustik GmbH, 2005. *Computer Aided Noise Abatement Model CadnaA*, Version 3.5. Munich, Germany.

GE Energy, 2004. "Technical Documentation Wind Turbine Generator System GE 1.5sl/sle 50 & 60 Hz, Noise Emission Characteristics" GE Energy GmbH, Salzbergen, Germany.

ISO, 1989. International Organization for Standardization. *Standard ISO 9613 Acoustics – Attenuation of Sound During Propagation Outdoors*. Geneva, Switzerland.

New York State Department of Environmental Conservation (NYS DEC). February 2, 2001. *Assessing and Mitigating Noise Impacts*, Program Policy. Albany, NY

tim.owens Dec 8, 2010



JANUARY 2008
600 LOCKWOOD DRIVE
HOUSTON, TX
E3-400 PLANT

(nts = not to scale)

02207-01

REV	REVISION DESCRIPTION	BY	APPR. DATE
–	AP080130	KTS	1-30-08

TEREX

TITLE

PLANT SOUND LEVEL

WEBBER MGMT. GROUP LLC

SIZE	SCALE	DRAWN DATE	DRAWING NUMBER	SHT
B	1"=20'	KTS 1-30-08	02207-01	14